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STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

INTER-OFFICE CORRESPONDENCE

REFERENCE #8
SITE NAME IL TOOL WORKS
SITE ID IL0950817249

DATE: June 11, 1974

MEMO TO: Miles A. Zamco, Surveillance Manager, DAPC
-LINO-

FROM: R. T. Castanares, Region II, DAPC

SUBJECT: Illinois Tool Works, Inc., Shakeproof Division
St. Charles Road
Elgin, Illinois 60120 (Kane County)

Telephone: (312) 741-7900
Product: Washers, screws and nuts
Contact: Thomas P. Hurst, Vice President and General Manager;
Fred Peaslee, Plant Engineer;
Daniel Kungie, Screw and Nut Superintendent

Employees: 1100+
Shifts, Days: 2 1/2, 6
Plant Area: 42 acres (total property)
SIC: 3544
Geocode: 089807 AAD

Weather Conditions
Temperature: 70°F
Wind: S, 20 MPH
Sky: Mostly cloudy
Permit Status: Granted one

On May 28, 1974, a routine investigation was conducted of the subject facility. While at this location, I spoke to several persons including Messrs. Peaslee and Kungie, who provided a plant tour and a description of their operations.

The plant is principally a custom job shop which specializes in manufacturing washers, screws and nuts from steel plates and wires to the automobile and appliance industries.

Process Description

1. Fabrication

There are hundreds of fabricating machines around, a majority of which is cooled in operation by a water-soluble emulsion.

a) Nuts

Automatic nut formers shape the coiled steel wires into proper specifications. Tapping of the nuts follows.

b) Washers

These are formed from flat steel plates through the use of automatic punch presses.

c) Screws

Formed initially by cold headers, the screws further undergo thread rolling, slotting and pinch pointing.

2. Washing

From the fabricating machines, the parts are then washed in water to remove the oil emulsion. Before its discharge, the wash water is pumped to a water treatment plant. The wash units are equipped with gas-fired driers.

3. Heat Treatment

There are 15 hardening furnaces (13 gas and 2 electric) and 8 gas-fired tempering furnaces. In between the hardening and tempering operations, the parts are quenched with high flash point oil and then dried. Whereas about 20% go directly for assembly, the rest undergo further processing.

4. Metal Cleaning

Depending on the nature of the finishing operation, the parts may be cleaned by any of the following methods: degreasing, phosphating, sand-blasting, and acid or alkaline treatment.

5. Finishing

More than 90% of the finishing is the metallic plating of the products with either zinc, nickel, tin, lead, cadmium or copper. Dip-painting and/or nylon dipping would comprise the rest of the finishing operations. The water effluent from these operations are likewise directed to the water treatment plant.

6. Assembly, Storage and Shipment

Finally, the products are mechanically assembled and then stored for eventual shipment to customers.

On its premises, the facility also operates 5 gas-fired Kewanee boilers, all served by a single 125-ft. high stack. They are rated at 175 to 215 HP and may be easily converted to fire #6 fuel oil. There also exist some 6 surface tanks for storage of quench oil, #6 fuel oil, sulfuric acid, caustic soda, and liquid ammonia. Three tanks are of 8000 gal. capacity and the other three can hold 20,000 gallons.

Whereas a bulk of the metal scrap generated is sold back to dealers for recycle, the worthless waste is regularly picked in gondulas by Elgin Wayne Disposal Co.

Emissions and Control

While there exist several furnaces and ovens, they are either gas-fired or electric. Electrostatic precipitators control the oil mist from the fabricating machines and the use of high flash point oil minimizes the smoke generation during quenching. Baghouses control the sandblasters and the electroplating generates mostly water vapor. However, corresponding material consumption during painting, copper stripping, and acid metal cleaning could not be established. Thus, the attached informational letter has been forwarded in order to continue our evaluation.

Conclusion

Accordingly the nature of the subject facility's reply to the informational letter would dictate future actions to be taken by the Agency.

RTC:dmd

cc: Region II Files